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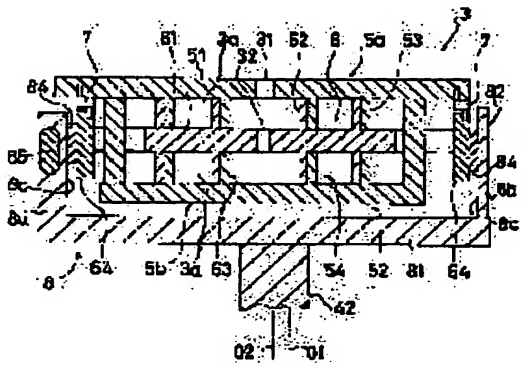
(54) SCROLL TYPE FLUID DEVICE

(57)Abstract:
PURPOSE: To support a turning scroll by its periphery so as not to produce any overturning moment and improve its reliability and efficiency.
CONSTITUTION: A turning scroll 6 is installed parallelly between a pair of fixed scrolls 5a, 5b. the turning scroll 6 is connected to a crankshaft 42 eccentrically through a rotation support mechanism 8. Support cylinders 64 are formed continuously on the periphery end of the turning scroll 6. Meanwhile, the rotation support mechanism 8 is composed of an extension member 81 extending in a centrifugal direction from the crankshaft 42 and a rotary cylinder 82 off-centered from the axial center of the crankshaft 42 in which the support cylinder 64 is inserted through a bearing. The bearing is composed of a large bearing surface part formed a bearing surface length largely and a small bearing surface part formed the bearing surface length small. In a rotary cylinder 82, a balance weight 84 is buried in the surface flush with the action surface of centrifugal force of the turning scroll 6.



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* NOTICES *

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CLAIMS

[Claim(s)]
[Claim 1] Fixed scrolling (5a, 5b) of the pair by which the spiral lap (53 54) was set up by the front face of an end plate (51 52) makes a front face meet mutually, and it is casing (2) in an parallel condition. While it is fixed Between these both fixed scrolling (5a, 5b) revolution scrolling (6) by which both sides of an end plate (61) come to set up a lap (62 63) the lap (53 54) of fixed scrolling (5a, 5b) which faces is meshed, and each lap (62 63) is arranged in parallel -- having -- this revolution scrolling (6) **** -- Rotation support device (8) It minds and a crankshaft (42) is revolution scrolling (6). To a core, carry out eccentricity and it is connected. It is revolution scrolling (6) by rotation of the above-mentioned crankshaft (42). It is scroll type fluid equipment rotation is prevented to fixed scrolling (5a, 5b), and it was made to revolve around the sun. The above-mentioned revolution scrolling (6) In the periphery edge of the end plate (61) which can be set this revolution scrolling (6) Rotation support device (8) while continuation formation of the support cylinder (64) of the shape of a cylinder supported free [rotation] is carried out -- the above-mentioned rotation support device (8) The extension material which is located in the tooth-back side of one fixed scrolling (5b), and is connected with a crankshaft (42), and is prolonged in the centrifugal direction from this crankshaft (42) (81), Extend toward fixed scrolling (5a) of another side from the periphery edge of this extension material (81), and eccentricity is carried out from the axial center of a crankshaft (42). Scroll type fluid equipment characterized by consisting of cylinder-like tumbling barrels (82) which have the perfect circle-like power transfer side (8c) where the above-mentioned support cylinder (64) is fitted in through bearing (83).
[Claim 2] scroll type fluid equipment according to claim 1 -- setting -- bearing (83) -- revolution scrolling (6) from -- scroll type fluid equipment characterized by consisting of the large bearing surface section (8d) in which it was located in the side with the large load which wins popularity, and bearing surface die length was formed greatly, and the rachilla abutment section (8e) in which it was located in the side with a small load, and bearing surface die length was formed small.
[Claim 3] scroll type fluid equipment according to claim 1 or 2 -- setting -- rotation support device (8) **** -- revolution scrolling (6) Scroll type fluid equipment characterized by forming the balance weight (84) on the same flat surface as the operating surface of a centrifugal force.
[Claim 4] Setting to scroll type fluid equipment according to claim 3, a balance weight (84) is a rotation support device (8). Scroll type fluid equipment characterized by being laid under the tumbling barrel (82).

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] Especially this invention relates to the supporting structure of revolution scrolling about scroll type fluid equipment.
[0002]
[Description of the Prior Art] Conventionally, while revolution scrolling is arranged between fixed scrolling of a pair and a lap is set up by the front face of the end plate of each fixed scrolling as indicated by JP,3-237202,A, there is a thing of both the gear-teeth type that the lap which gets into gear on the lap of fixed scrolling is set up by both sides of the end plate of the above-mentioned revolution scrolling, and grows into them in scroll type fluid equipment. And in the above-mentioned scroll type fluid equipment, by forming an operation room in both-sides side of the end plate in revolution scrolling, the load of the thrust direction is offset mutually and balance-ization of thrust loading which acts on revolution scrolling is attained.
[0003] As it replaces with the both gear-teeth type thing which, on the other hand, prepared fixed scrolling of the pair mentioned above and is shown in drawing 8 , it is one fixed scrolling (c) about revolution scrolling (a, b) of a pair. There is a thing of both the gear-teeth type that arranges and grows into both-sides side. This fixed scrolling (c) End plate (d) It is a frame (e) in a periphery edge. While being attached This fixed scrolling (c) Lap (f) Revolution scrolling (a, b) of the pair equipped with the lap (g, g) which gets into gear is connected on the periphery edge of an end plate (h, h). One revolution scrolling (a) End plate which can be set (h) In a tooth back, it is a frame (i). The supported crankshaft (j) is revolution scrolling (b) of another side. End plate which can be set (h) In a tooth back, it is a frame (i). Supported rotation support shaft (k) It is connected, respectively. And it also sets to the above-mentioned scroll type fluid equipment, and is fixed scrolling (c). End plate which can be set (d) It is an operation room (m) to both-sides side. By forming, the load of the thrust direction is offset mutually and balance-ization of thrust loading which acts on revolution scrolling (a, b) is attained.
[0004]
[Problem(s) to be Solved by the Invention] In the scroll type fluid equipment indicated by the former official report mentioned above, since the crankshaft has penetrated the core of fixed scrolling and revolution scrolling, revolution scrolling can be supported on the same operating surface to the centrifugal force and gas force which are produced in revolution scrolling, and an upsetting moment does not arise in this revolution scrolling. However, since the above-mentioned crankshaft has penetrated the core of fixed scrolling and revolution scrolling, when an edge will be located in the distance from a core at volume the beginning of a lap, there is a problem that a compression ratio is small and it is going to enlarge this compression ratio, there is a problem that an outer diameter becomes very large. the scroll type fluid equipment shown in drawing 8 on the other hand -- setting -- crankshaft (j) Since cores, such as revolution scrolling (a, b), were not penetrated, it could be made to approach centering on an edge at volume the beginning of a lap (f, g), and there was a problem that an upsetting moment acted on ** which can enlarge a compression ratio, and revolution scrolling (a, b). that is, the above-mentioned fixed scrolling (c) Operation room (m) formed by the lap (f, g) between revolution scrolling (a, b) it is -- for example, the refrigerant gas is compressed, according to the resultant force F1 and F2 with the gas pressure by this refrigerant gas, and the centrifugal force by revolution of revolution scrolling (a, b), an upsetting moment will arise and both the above-mentioned revolution scrolling (a, b) will incline. Consequently, in one side of each above-mentioned lap (f, g), while the clearance delta between the tip of this lap (f, g) and each end plate (d, h) becomes large, leakage will arise and effectiveness fell, per piece of the above-mentioned lap (f, g) arose, and there was a problem that dependability fell.

[0005] This invention is made in view of this point, and aims at aiming at improvement in dependability, and improvement in effectiveness in support of revolution scrolling on a periphery so that an upsetting moment may not arise.

[0006]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the solution means which this invention provided supports revolution scrolling in a rotation support device in the periphery section. The means which invention concerning claim 1 provided concretely Fixed scrolling (5a, 5b) of the pair by which the spiral lap (53 54) was set up by the front face of an end plate (51 52) as shown in drawing 2 makes a front face meet mutually, and it is casing (2) in an parallel condition. While it is fixed Between these both fixed scrolling (5a, 5b) Revolution scrolling by which both sides of an end plate (61) come to set up a lap (62 63) (6) Each lap (62 63) is meshed on the lap (53 54) of fixed scrolling (5a, 5b) which faces, and it is arranged in parallel. furthermore, this revolution scrolling (6) **** -- rotation support device (8) it minds, and to the core of revolution scrolling (6), a crankshaft (42) carries out eccentricity and connects -- having -- rotation of the above-mentioned crankshaft (42) -- revolution scrolling (6) It is aimed at the scroll type fluid equipment rotation is prevented to fixed scrolling (5a, 5b), and it was made revolve around the sun. And the above-mentioned revolution scrolling (6) In the periphery edge of the end plate (61) which can be set, it is this revolution scrolling (6). Rotation support device (8) Continuation formation of the support cylinder (64) of the shape of a cylinder supported free [rotation] is carried out. On the other hand, it is the above-mentioned rotation support device (8). Extension material which is located in the tooth-back side of one fixed scrolling (5b), and is connected with a crankshaft (42), and is prolonged in the centrifugal direction from this crankshaft (42) (81), Extend toward fixed scrolling (5a) of another side from the periphery edge of this extension material (81), and eccentricity is carried out from the axial center of a crankshaft (42). It consists of cylinder-like tumbling barrels (82) which have the perfect circle-like power transfer side (8c) where the above-mentioned support cylinder (64) is fitted in through bearing (83). moreover, the means which invention concerning claim 2 provided -- invention of above-mentioned claim 1 -- setting -- bearing (83) -- revolution scrolling (6) from -- it consists of the large bearing surface section (8d) in which it was located in the side with the large load which wins popularity, and bearing surface die length was formed greatly, and the rachilla abutment section (8e) in which it was located in the side with a small load, and bearing surface die length was formed small. moreover, the means which invention concerning claim 3 provided -- above-mentioned claim 1 or invention of 2 -- setting -- rotation support device (8) **** -- revolution scrolling (6) It is considering as the configuration in which the balance weight (84) was formed on the same flat surface as the operating surface of a centrifugal force. Moreover, the means which invention concerning claim 4 provided is set to invention of above-mentioned claim 3, and a balance weight (84) is a rotation support device (8). It is considering as the configuration laid under the tumbling barrel (82).

[0007]

[Function] By the above-mentioned configuration, by invention concerning claims 1 and 2 When a crankshaft (42) rotates, it follows on rotation of this crankshaft (42), and is a rotation support device (8). A tumbling barrel (82) rotates focusing on the axial center O2 of a crankshaft (42). Since the power transfer side (8c) which is the inner skin of a tumbling barrel (82) is carrying out eccentricity of the axial center O2 of a crankshaft (42) from the core while rotating focusing on the axial center O2 of a crankshaft (42), it will revolve around the sun focusing on the axial center O2 of this crankshaft (42). It is revolution scrolling (6) by rotation of the above-mentioned tumbling barrel (82). Although it is going to rotate This revolution scrolling (6) Rotation is prevented and only orbital motion is performed to fixed scrolling (5a, 5b) focusing on the axial center O2 of a crankshaft (42). Revolution scrolling (6) A lap (62 63) and the lap (53 54) of each fixed scrolling (5a, 5b) will contact by two or more places on a side face. This contact part will move toward a core, the volume will contract with this migration, and a fluid will be compressed.

[0008] the time of this compression actuation -- setting -- revolution scrolling (6) **** -- although the centrifugal force, tangential direction gas force, and radial gas force by orbital motion will act -- the above-mentioned revolution scrolling (6) Since it is supported by the tumbling barrel (82) at a periphery edge and is supported on the operating surface with the above-mentioned centrifugal force, the tangential direction gas force, and the radial gas force, an upsetting moment does not arise in the above-mentioned revolution scrolling (6). Moreover, by invention concerning claims 3 and 4, it is the above-mentioned revolution scrolling (6). The imbalance of the crankshaft (42) produced according to a centrifugal force is canceled by the centrifugal force of a balance weight (84), and the centrifugal force of a tumbling barrel (82).

[0009]

[Effect] Therefore, according to invention concerning claim 1, it is the above-mentioned revolution scrolling (6). It sets at the periphery edge of an end plate (61), and is a rotation support device (8). It is revolution scrolling (6) to eye ****** so that it may support. It is this revolution scrolling (6) on operating surfaces, such as a centrifugal force which acts. Since it will support, it is revolution scrolling (6). Generating of an upsetting moment can be prevented certainly. Consequently, since the gap of a lap (53, 54, 62, 63) and an end plate (51, 52, 61) does not increase while being able to prevent per piece of per each lap (53, 54, 62, 63) comrade's piece, or bearing (83), improvement in dependability and improvement in compression efficiency can be aimed at. Moreover, it is revolution scrolling (6) like before. Since it does not support in a core, while it can be made to be able to approach centering on an edge at volume the beginning of a lap (53, 54, 62, 63), a compression ratio etc. can be enlarged and improvement in effectiveness can be aimed at, enlargement of the whole equipment can be controlled. Moreover, one revolution scrolling (6) Since it constitutes and can lightweight-ize as compared with the case where revolution scrolling of a pair is prepared like the conventional example, effect of a centrifugal force can be made small. Moreover, the above-mentioned revolution scrolling (6) Since what is necessary is just to refuel the bearing (83) of the side and it is not necessary to refuel the bearing of up revolution scrolling like the conventional example, simplification of an oil supply path can be attained and simplification of structure can be attained.

[0010] Moreover, according to invention concerning claim 2, the load in bearing (83) can control increase of bearing loss for a small side at eye formation ****** in the rachilla abutment section with small bearing surface die length (8e), and can control decline in effectiveness. Moreover, according to invention concerning claim 3, it is the above-mentioned revolution scrolling (6). A balance weight (84) can be formed on the same flat surface as the operating surface of a centrifugal force, and this balance weight (84) can be made small at eye ****. Moreover, according to invention concerning claim 4, it is a rotation support device (8) about the above-mentioned balance weight (84). Since the above-mentioned balance weight (84) does not project while being able to use the centrifugal force of a tumbling barrel (82) for a tumbling barrel (82) at eye laying-under-the-ground ****** and being able to make a balance weight (84) small, the churning loss by rotation of a balance weight (84) can be reduced.

[0011]

[Example] Hereafter, the example of this invention is explained to a detail based on a drawing. As [show / in drawing 1] (1) is scroll type fluid equipment used for the compressor of a refrigerator, compresses a refrigerant and carries out the regurgitation of the high-pressure refrigerant. And this scroll type fluid equipment (1) Sealing casing (2) It is a scrolling device (3) to the inner upper part. It is a scrolling device (3) to the lower part. Drive for driving (4) It is contained and constituted. The above-mentioned drive (4) A crankshaft (42) is connected with an electric motor (41), it changes, and this electric motor (41) is casing (2). It consists of support frames (Rota (44 ****(ed) by the stator (43) attached in 11), and this stator (43)) fixed to the internal surface. While the lower part of the above-mentioned crankshaft (42) is ****(ed) by this rotor (44), the upper part of this crankshaft (42) penetrates a support frame (11), and is extended above this support frame (11), and this crankshaft (42) is supported by the support frame (11) free [rotation]. Moreover, a siphon pump (45) is prepared in the lower limit section of the above-mentioned crankshaft (42), and this siphon pump (45) is casing (2). It is immersed in eye a sump (21) were formed in the lower part.

[0012] The above-mentioned scrolling device (3) As shown also in drawing 2 , it has fixed scrolling (5a, 5b) of a pair, and one revolution scrolling (6) located between these both fixed scrolling (5a, 5b), and it is casing (2). It is arranged between the support frame (11) fixed to the internal surface, and the level frame (12). Fixed scrolling (5a, 5b) of a top Norikazu pair A lap [being spiral (the shape of an involute)] (53 54) is set up by the front face of a disc-like end plate (51 52), and it grows into it. That is, up fixed scrolling (5a) A lap (53) is set up by the inferior surface of tongue of an end plate (51), and it grows into it, and a lap (54) is set up by the top face of an end plate (52), lower fixed scrolling (5b) grows into it, and both fixed scrolling (5a, 5b) makes the front face of an end plate (51 52) meet mutually, and is arranged in parallel. And the end plate (51) of the above-mentioned up fixed scrolling (5a) Casing (2) While it is fixed to a level frame (12), and the periphery edge of the end plate (51 52) in the above-mentioned lower fixed scrolling (5b) The above-mentioned revolution scrolling (6) The pin-like connection member (55) of plurality (4 [for example,]) to penetrate connects with the end plate (51) of up fixed scrolling (5a) at one. Furthermore, the discharge opening (31) for continuing and penetrating above a level frame (12) from the front face of an end plate (51), and carrying out the regurgitation of the high-pressure refrigerant is formed in the center section of the end plate (51) in the above-mentioned up fixed scrolling (5a). The above-mentioned revolution scrolling (6) It is located between both fixed scrolling (5a, 5b), and is arranged in parallel with this fixed scrolling (5a, 5b). A lap [being spiral (the shape of an involute)] (62 63) is set up by vertical both sides of a disc-like end

plate (61), and it grows into them, and is this revolution scrolling (6). In the center section of the end plate (61) The through tube which the above-mentioned connection member (55) penetrates [the discharge opening (32) for carrying out the regurgitation of the high-pressure refrigerant] in the periphery section is formed, respectively. And the above-mentioned revolution scrolling (6) An upper lap (62) gets into gear on the lap (53) of up fixed scrolling (5a) which faces, and is revolution scrolling (6). The lower lap (63) has got into gear on the lap (54) of lower fixed scrolling (5b) which faces. Moreover, the above-mentioned casing (2) In the side-attachment-wall upper part The suction pipe (13) for inhaling a low voltage refrigerant is connected between a support frame (11) and a level frame (12). In a top-face wall The discharge tube (14) for carrying out the regurgitation of the high-pressure refrigerant is connected in the upper part of a level frame (12), and it is casing (2). In the interior In the low pressure chamber (22) where a low voltage refrigerant is introduced between a support frame (11) and a level frame (12), the upper part of a level frame (12) is constituted by the hyperbaric chamber (23) into which a high-pressure refrigerant is introduced, respectively.

[0013] Furthermore, the above-mentioned revolution scrolling (6) As a description of this invention, they are a support cylinder (64) and a rotation support device (8). It minds and connects with the crankshaft (42). Continuation formation is carried out at the periphery edge of an end plate (61) at one, and this support cylinder (64) is prolonged in the end plate (61) and the direction of a right angle (the vertical direction) while it is formed in the shape of a cylinder. And between the upper part of the above-mentioned support cylinder (64), and the end plate (51) of up fixed scrolling (5a), it is revolution scrolling (6). Rotation inhibition member (7) It is prepared. This rotation inhibition member (7) It has two eccentric pins, and one eccentric pin is inserted in a support cylinder (64), the eccentric pin of another side is inserted in the end plate (51) of fixed scrolling (5a), and it is the above-mentioned revolution scrolling (6). He is trying not to rotate to fixed scrolling (5a, 5b).

[0014] On the other hand, it is the above-mentioned rotation support device (8). It consists of tumbling barrels (82) set up by the extension material (81) connected with the crankshaft (42), and this extension material (81), and is revolution scrolling (6) about rotation of the above-mentioned crankshaft (42). It is transmitting. The above-mentioned extension material (81) is a disc-like member prolonged in the centrifugal direction of a crankshaft (42), the upper limit of a crankshaft (42) is connected with an inferior-surface-of-tongue center section, and is located in the tooth-back side of the above-mentioned lower fixed scrolling (5b), and is arranged horizontally. The above-mentioned tumbling barrel (82) is formed in the cylinder object prolonged up toward the end plate (51) of up fixed scrolling (5a) from the periphery edge of extension material (81). And while one side is formed in a heavy-gage part (8a), this tumbling barrel (82) The opposite side is formed in a thin-walled part (8b), and it is formed in the perfect circle of the core O1 as for which inner skin carried out eccentricity from the axial center O2 of a crankshaft (42). That is, the cylindrical building envelope of the above-mentioned tumbling barrel (82) A core O1 carries out eccentricity from the axial center O2 of a crankshaft (42), and it is revolution scrolling (6) to this building envelope. And receipt arrangement of the lower fixed scrolling (5b) is carried out. Furthermore, the inner skin of the above-mentioned tumbling barrel (82) is revolution scrolling (6). It is constituted by the power transfer side (8c) where a support cylinder (64) is fitted in through bearing (83), and rotation of a crankshaft (42) is revolution scrolling (6) in this power transfer side (8c). It is transmitted. And it is revolution scrolling (6) by rotation of the above-mentioned crankshaft (42). Only revolution is performed without rotating to fixed scrolling (5a, 5b), and it is revolution scrolling (6). The side face of a lap (62 63) and the side face of the lap (53 54) of fixed scrolling (5a, 5b) touch by two or more places. It sets between the contact parts of each of this lap (53, 54, 62, 63), and they are fixed scrolling (5a, 5b) and both revolution scrolling (6). An operation room (3a) is formed in between, this operation room (3a) moves in the direction of a core spirally, and the **** volume contracts.

[0015] As shown in drawing 3 , the above-mentioned bearing (83) is a plain bearing, and consists of the large bearing surface section (8d) in which the bearing surface die length L1 of one side was formed greatly, and the rachilla abutment section (8e) in which the bearing surface die length L2 of the opposite side was formed small. That is, as shown in drawing 4 , it is revolution scrolling (6). The operation relation of the force to produce is revolution scrolling (6). The tangential direction gas force F5 acts in the operation direction and the rectangular direction of a centrifugal force F3 at the same time the radial gas force F4 acts on the operation direction and opposite direction of a centrifugal force F3 with the refrigerant gas pressure of an operation room (3a), while a centrifugal force F3 acts in the eccentric direction. The resultant force F with this centrifugal force F3, the radial gas force F4, and the tangential direction gas force F5 will act on revolution scrolling (6), and bearing (83) will receive this resultant force F. Since the direction of this

resultant force F changes synchronizing with rotation of a crankshaft (42) and the above-mentioned bearing (83) receives resultant force F from the always same direction, the side which receives resultant force F is formed in the large large bearing surface section (8d) of the bearing surface die length L1, and the bearing surface die length L2 is formed in the small rachilla abutment section (8e) for the opposite side which does not receive resultant force F.

[0016] Moreover, the balance weight (84) is laid under the above-mentioned body of revolution, and this balance weight (84) is revolution scrolling (6). It is prepared on the same flat surface as the operating surface of a centrifugal force. That is, as shown in drawing 5 , the above-mentioned balance weight (84) is revolution scrolling (6). It is prepared in the same height as the point of application of a centrifugal force F3. As the former is shown in drawing 6 , two balance weights (W1, W2) are revolution scrolling (6). It is caudad prepared from the point of application of a centrifugal force F3. That is, the scrolling device was established caudad, and since the balance weight (W1, W2) was close to the supporter of a crankshaft (42) to the point of application of a centrifugal force being distant from the supporter of a crankshaft (42), the big balance weight (W1, W2) had been required. Then, the above-mentioned balance weight (84) was set as the same height as the point of application of the centrifugal force F3 of revolution scrolling (6), and the magnitude of this balance weight (84) is mitigated. Furthermore, the above-mentioned balance weight (84) is laid under the heavy-gage part (8a) of a tumbling barrel (82). That is, as shown in drawing 7 , it is a rotation support device (8). Since the tumbling barrel (82) is formed from the heavy-gage part (8a) and the thin-walled part (8b), the centrifugal force F6 by the tumbling barrel (82) will arise with the eccentricity to a crankshaft (42). And the centrifugal force F6 of this tumbling barrel (82) is revolution scrolling (6). Since it is the operation direction and hard flow of a centrifugal force F3, the centrifugal force F7 of the above-mentioned balance weight (84) becomes small according to the centrifugal force F6 of a tumbling barrel (82). Then, he is trying to form the above-mentioned balance weight (84) in the heavy-gage part (8a) of a tumbling barrel (82).

[0017] Next, the above-mentioned scroll type fluid equipment (1) Compression actuation is explained. First, if an electric motor (41) is driven, a crankshaft (42) will rotate an axial center O2 as a core. It follows on rotation of this crankshaft (42), and is a rotation support device (8). A tumbling barrel (82) will rotate focusing on the axial center O2 of a crankshaft (42). Since the axial center O2 of a crankshaft (42) is carrying out eccentricity from the core O1 while rotating the power transfer side (8c) which is the inner skin of a tumbling barrel (82) focusing on the axial center O2 of a crankshaft (42) with rotation of a tumbling barrel (82) in that case, that is, rotating, it will revolve around the sun focusing on the axial center O2 of this crankshaft (42). It is revolution scrolling (6) by rotation of the above-mentioned tumbling barrel (82). Although it is going to rotate, it is a rotation inhibition member (7). Since it is prepared, it is revolution scrolling (6). Rotation will be prevented and only revolution will be performed focusing on the axial center O2 of a crankshaft (42). That is, the above-mentioned revolution scrolling (6) Only orbital motion will be performed focusing on the axial center O2 of a crankshaft (42) to fixed scrolling (5a, 5b). And the above-mentioned revolution scrolling (6) Since it has geared on the lap (53 54) of both fixed scrolling (5a, 5b), a lap (62 63) is revolution scrolling (6). A lap (62 63) and the lap (53 54) of each fixed scrolling (5a, 5b) will contact by two or more places on a side face. This contact part moves toward a core, and it follows on this migration, and is revolution scrolling (6). An operation room (3a) is formed from the termination (outer edge) of each lap (53, 54, 62, 63) between both fixed scrolling (5a, 5b), and the volume contracts, moving spirally toward the discharge opening (31 32) of a core. On the other hand, it introduces into a low pressure chamber (22) from a suction pipe (13), and a low voltage refrigerant is this low pressure chamber (22) to the above-mentioned revolution scrolling (6). It flows into the operation room (3a) between each fixed scrolling (5a, 5b). Then, the above-mentioned refrigerant is compressed by volume contraction of each operation room (3a), and serves as high pressure, and this high-pressure refrigerant will be introduced into the hyperbaric chamber (23) through a discharge opening (31 32) from each operation room (3a), and will be breathed out from a discharge tube (14).

[0018] the time of this compression actuation -- setting -- scrolling device (3) although the thrust force in which it can set will be offset by the operation room (3a) of two upper and lower sides -- revolution scrolling (6) **** -- the centrifugal force F3, the tangential direction gas force F5, and the radial gas force F4 by orbital motion will act. It is the above-mentioned revolution scrolling (6) in that case. Since it is supported by the tumbling barrel (82) through bearing (83) and is supported by the support cylinder (64) of a periphery edge on the operating surface with the above-mentioned centrifugal force F3, the tangential direction gas force F5, and the radial gas force F4, it is the above-mentioned revolution scrolling (6). An upsetting moment does not arise. Moreover, the above-mentioned revolution scrolling (6) The imbalance of

the crankshaft (42) produced according to a centrifugal force F3 is canceled by the centrifugal force F7 of a balance weight (84), and the centrifugal force F6 of a tumbling barrel (82).
[0019] Therefore, according to this example, it is the above-mentioned revolution scrolling (6). It sets at the periphery edge of an end plate (61), and is a rotation support device (8). It is revolution scrolling (6) to eye ****** so that it may support. It is this revolution scrolling (6) on operating surfaces, such as a centrifugal force which acts. Since it will support, it is revolution scrolling (6). Generating of an upsetting moment can be prevented certainly. Consequently, since the gap of a lap (53, 54, 62, 63) and an end plate (51, 52, 61) does not increase while being able to prevent per piece of per each above-mentioned lap (53, 54, 62, 63) comrade's piece, and bearing (83), improvement in dependability and improvement in compression efficiency can be aimed at. Moreover, it is revolution scrolling (6) like before. Since it does not support in a core, while it can be made to be able to approach centering on an edge at volume the beginning of a lap (53, 54, 62, 63), a compression ratio can be enlarged and improvement in effectiveness can be aimed at, enlargement of the whole equipment can be controlled. Moreover, one revolution scrolling (6) Since it constitutes and can lightweight-ize as compared with the case where revolution scrolling (a, b) of a pair is prepared like the conventional example of drawing 8 , effect of a centrifugal force can be made small. Moreover, the above-mentioned revolution scrolling (6) Since what is necessary is just to refuel the bearing (83) of the side, it is up revolution scrolling (b) like the conventional example of drawing 8 . Since it is not necessary to refuel bearing, simplification of an oil supply path can be attained and simplification of structure can be attained. Moreover, the above-mentioned bearing (83) can control increase of bearing loss for a side with a small load at eye formation ****** in the rachilla abutment section with small bearing surface die length (8e), and can control decline in effectiveness. Moreover, the above-mentioned revolution scrolling (6) The above-mentioned balance weight (84) can be formed on the same flat surface as the operating surface of a centrifugal force, and this balance weight (84) can be made small at eye ****. Moreover, it is a rotation support device (8) about the above-mentioned balance weight (84). Since the above-mentioned balance weight (84) does not project while being able to use the centrifugal force of a tumbling barrel (82) for a tumbling barrel (82) at eye laying-under-the-ground ****** and being able to make a balance weight (84) small, the churning loss by rotation of a balance weight (84) can be reduced.
[0020] In addition, the above-mentioned example is scroll type fluid equipment (1) of this invention, although the compressor for refrigerators was explained. You may use for a vacuum pump, an expansion machine, etc.

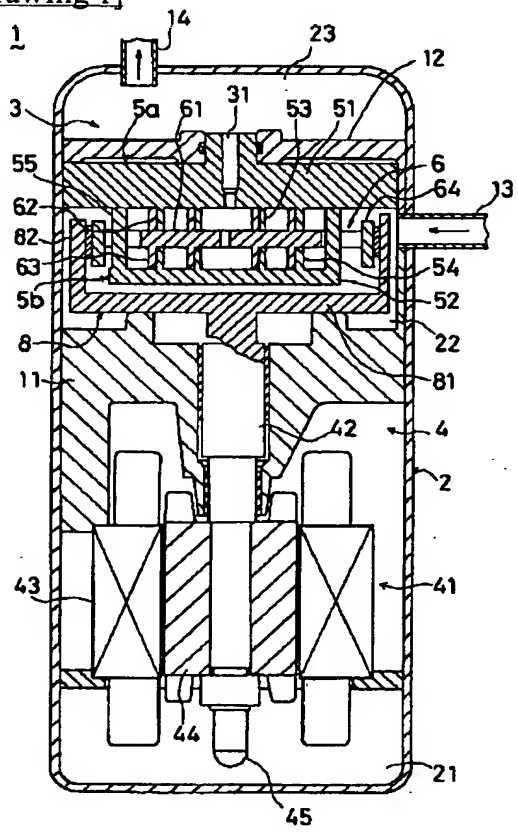
[Translation done.]

* NOTICES *

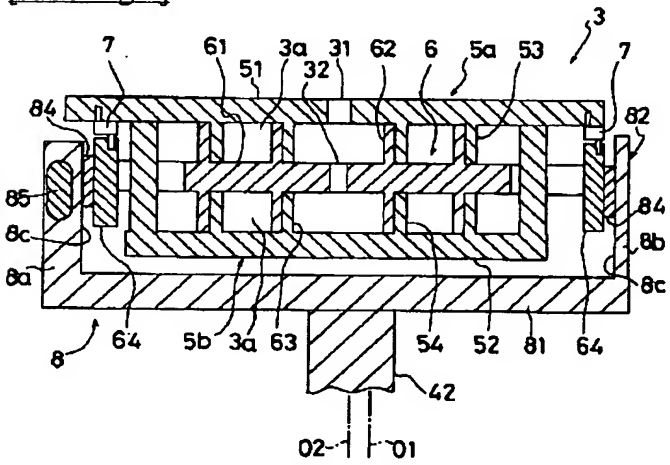
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

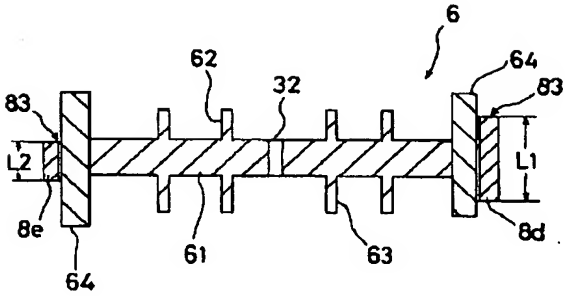
[Drawing 1]



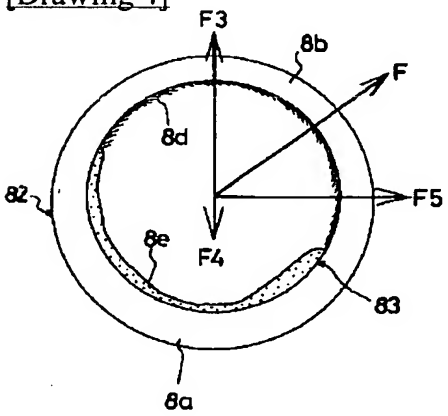
[Drawing 2]



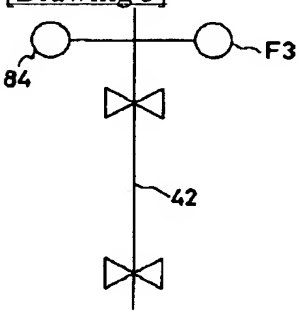
[Drawing 3]



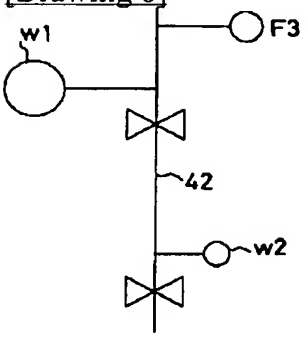
[Drawing 4]



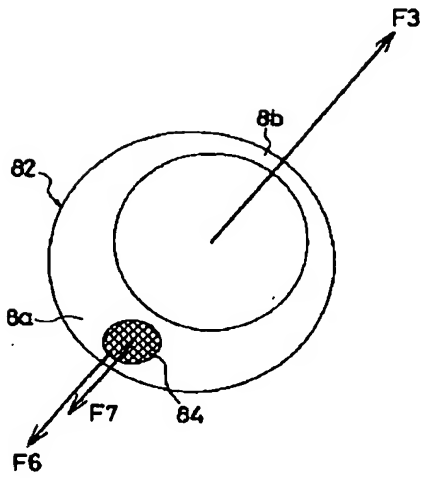
[Drawing 5]



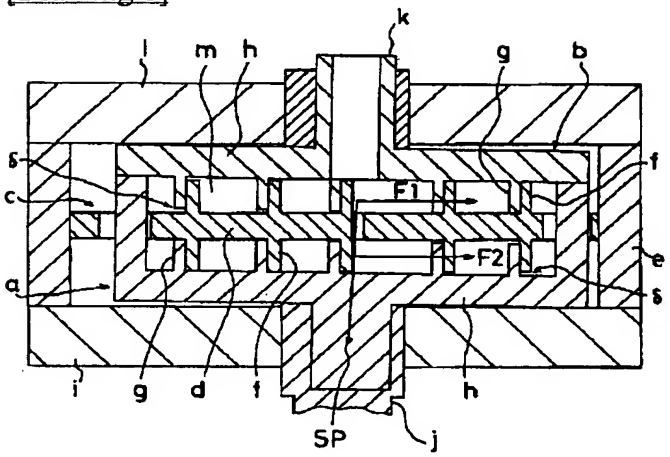
[Drawing 6]



[Drawing 7]



[Drawing 8]



[Translation done.]